

E-Learning 2.0, Social Media and Communities to Improve Knowledge in Companies

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Abstract

Companies could hold competitive advantages by improving individual and collective knowledge of their staff i.e. through using e-Learning, social media and participation in social communities. In this paper, firstly the learning practices in SMEs have been discussed with the starting of an assessment on companies' readiness for e-Learning, supporting knowledge development. Then social communities like Communities of Practice (CoPs) have been depicted as an approach to support learning, sharing, transfer and development of knowledge suitable for SMEs. Examples and some conclusions are presented in this paper.

Keywords

E-Learning; SME; Social Media; Knowledge; CoP

Introduction

Companies can increase their competitiveness by improving individual and collective knowledge of their staff i.e. through using e-Learning, social media and participating in social communities (Hamburg, 2012a, 2012b, 2012c). "Knowing, therefore, is a matter of displaying competences defined in social communities" affirms Wenger (2002). Participating in Communities of Practice' (CoP) is essential to learning making human being capable of meaningful knowledge. In particular, learning communities support the development of higher order thinking skills which is not achieved by individual learners. (Cecez-Kecmanovic and Webb, 2000; Garrison and Archer, 2000).

Wild, Griggs and Downing (2002) showed that e-Learning is an important tool that can support knowledge development "a revolutionary way to empower a workforce with the skills and knowledge it needs to turn change as an advantage". However, traditional e-Learning courses have focused on content delivery rather than skills development and offer information assimilation rather than knowledge

construction. Furthermore, Johnson et al 2007 highlighted that collaborative learning when compared with individual learning seems to result in higher achievement and greater retention of the material learned.

Training by using e-Learning 2.0, based on Web 2.0 with the focus on community and social interactions, has the potential to support sharing and transfer of individual and organizational knowledge through interactive methods of on-line delivery of information, collaborative procedures, targeted training and through blending of e-Learning with other education methods. E-Learning supports the building of knowledge and the connection of people.

"Global organisations are now looking at technologies to accelerate learning, build leadership positions to help meet strategic business goals and continuously motivate employees as business requirements shift" affirms Van Dam, Director Global Talent Deloitte who also encourage their workforce to share and create knowledge through social media, which results in better productivity and a positive mood in the work place. Social media like wikis, blogs, and online communities are adopted as learning and knowledge development tools by many big organizations.

The situation is not similar with small and medium size companies (SMEs) that contribute to more than half of European "value-added by business" and assure economic growth (http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/index_en.htm). Many of them are small ones and have difficulties in facing technological, economic and financial changes and skill shortage. The knowledge and human resources of SMEs are very limited and they need help to develop approaches that promote knowledge transfer for filling knowledge gaps and learning approaches easy to use particularly based on

new ICT. Results of projects, some of them coordinated by authors (Simpel, ReadisME), and recent studies have shown that many SMEs are not ready for using e-Learning for training and knowledge transfer, and often act alone.

In this paper, the learning practices in SMEs have been discussed with the starting of an assessment on companies' readiness for e-Learning, supporting knowledge development, then social communities like Communities of Practice (CoPs) (Wenger, McDermott and Snyder, 2002; Hamburg, Engert, Petschenka and Marin, 2008; Hamburg, 2010) have been depicted as an approach to support learning, sharing, transfer and development of knowledge suitable for SMEs. Examples and some conclusions are presented in the end.

Learning in SMEs

E-learning methods with their flexibility of time and place have objectively many advantages particularly for SMEs. The trainees have the possibility to choose when they study, distance and schedules becoming irrelevant. The students who are not required to take into account each other's time restriction, can also choose content necessary to their tasks.

Properly developed training based on e-Learning not only contributes to improving competences of SME staff, but also to creating a growing repository of knowledge. This knowledge can be continuously provided to employees at a determined time and in a way that can be individualized, to be more efficient. On the other hand, one problem of CoPs is the lack of interpersonal communication among students with trainers, particularly when the online courses consist only of lecture notes or slide presentations and social presence is missing. E-learning has a great potential for the expansion of educational opportunities but it is considered that "social presence is a strong enabler of satisfaction as well in a computer conference" (O'Brien, Hall and Johnson, 2008; Hamburg, 2011a).

In this context, there have many barriers that impede the collaboration of e-Learning based training such as costs, academic quality and lack of required ICT skills.

The concept of Web 2.0 (O'Reilly, 2005) could facilitate a new level of interaction that makes it easier to collaborate and share information. E-learning 2.0, based on tools that combine easy creation of content with Web delivery and collaboration, is ideal for SMEs supporting natural informal learning (preferred by the SME staff) and simplifying tasks involved in working

and learning in groups. In SMEs there are often limited resources and skills as they only have a small number of employees. Communities allow SMEs to access external expertise. In communities, an individual will receive help from a network of peers, so unnecessary searching activity and time can be avoided. Best practices and experience of other experts from the community can help individuals to learn how to solve problems.

However, there is little evidence of the application of (formal) e-Learning and Web 2.0 in training, or the use of computers by individuals in (informal) learning in most SMEs; in addition, learning and work activities are often separate (Beer, Busse, Hamburg and Oehler, 2008). One of the most critical but important aspects to be considered in this context is an evaluation of e-Learning readiness. Many companies which have to make the decision whether to integrate e-Learning into their vocational strategy do not know if the company, the staff and infrastructures are "ready" for this or not.

Determining e-Learning readiness has led to the development of several questionnaires to assess e-Learning readiness each involving a number of common features that contribute to the e-Learning readiness of a company. Some of them are technological readiness, content readiness, external environment readiness, human resources readiness, organisation readiness, economic readiness (Chapnick 2000; Rosenberg, 2000; Mutula and Brakel, 2006; Stone and Villachica, 2003).

In addition, Aydm and Tasci (2005) did a synopsis of the literature concerning e-Learning readiness in addition to the traditional sections business, technology, content etc. They cited innovation as a factor that can be used to determine e-Learning readiness. The companies open for innovation also in learning methods show a high level of e-Learning readiness. As the ability of a firm to innovate is a gauge of their ability to adapt knowledge and thus learning, innovation can be a key indicator of a firms learning readiness. Therefore, such questions need to be incorporated into a learning readiness assessment.

In a more comprehensive approach, Stone and Villachica (2003) outlined a detailed approach concerning e-learning readiness from a long term view of the organisation. This involved several stages like "Current Environmental scan, Evisoned tomorrow, Needs assessment, Construct understanding, where are we now where are we going and how do we get there, Roadmap/implementation approach. "This is a

sustainable approach, however, it neglects to consider the crisis driven attitude of the SME the technical constraints faced by SMEs and the need for networking. To assess the true readiness of SMEs in Europe, the ReadISME project has developed an e-Learning readiness questionnaire from the models in the literature. 54 companies from Ireland, Germany, Portugal and Romania participated in the survey which showed that there is a high level of readiness for lifelong learning (LLL) in companies. However, there are some outstanding issues.

The majority of companies have a sufficient level of ICT usage and skills and good internet connectivity. However, the majority of companies do not use e-Learning. The most common type of learning is in company courses by an external trainer. Content seems to be a main problem with only 37% of companies having electronic content which is easy to find. One of the main ICT factors preventing its use in companies is the lack of relevant applications.

The majority of companies seem to have a good learning culture, many companies have staff motivated and ready to learn and use tools for staff development, like training needs analysis and training plans. The most common type of learning is a combination of informal and formal techniques. The most common technology used for work is the internet followed by mobile phones.

Organizationally, the majority of companies seem to be ready for LLL. They have a strategy going forward, structures favourable to learning and encourage innovation and reward such through training and bonuses. However, only 36% of companies have a proactive approach to learning. However, the main organizational or strategic factors preventing LLL is the time to explore whether training is a viable option to assist the company to obtain its objectives (66%). Financial resources are also an issue.

An important aspect is the design of the appropriate content for e-Learning based training content guided by the SME's knowledge requirements. Content can involve knowledge required by staff to perform their tasks and help to improve products and services offered to clients. Knowledge concerning new markets, customers and suppliers that needs to be transferred to the staff by e-Learning based training can also be part of the content of training.

Communities

Groups of people coming together to cooperate, share

and learn informal from each other face-to-face and virtually in a community, which is social, open and allows easy access necessary to achieve results, become increasingly important in many organisations (Hamburg, 2011a, 2011b).

Such examples are CoPs, researched by many authors. Practitioners or people who would like to learn practical solutions for solving problems are held together in a CoP by a common interest in a body of knowledge. They are driven by desire and need to learn through practice and social participation, to share problems, experiences, insights, templates, tools and best practices.

CoPs which are social containers of competences, address not only the acquisition of technical skills for a determined practice but also social and informal aspects of sharing and developing knowledge. So there is a great deal of interest within organisations to encourage, support and sponsor CoPs in order to benefit from shared knowledge that could lead to higher productivity.

CoPs have a social character when they satisfy at least one of four social needs – 4C's (en.wikipedia.org/wiki/Maslow's_hierarchy_of_needs):

- Communicate—offering mechanisms for easy communication (see social media micro blogging)
- Connect – helping members to connect through profile searching
- Contribute—encouraging contributions of others fulfils the esteem needs.
- Create – providing the ability to share ideas (i.e. by wikis).

Internet and web have a vast potential to create prosperous environments for emerging virtual CoPs (VCoPs). Web 2.0 can efficiently support activities within a community as well as the collaboration of SME staff through interactive web-based procedures and the concept of Connectivism developed by Siemens (2005) whereby information is constantly changing, the learning, which takes place in distributed networks of people, is based on diversity of opinion. Content and services are adaptable and responsive to the specific needs and goals of SMEs.

The use of e-Learning 2.0 in CoPs improves the ability of trainees to socially interact with the technology used (communication with technology). Passion and desire to learn of CoP members is a benefit.

Social media offers the premises for a fast knowledge acquisition and support also within the communities.

Kaplan and Heinlein (2009) created a classification scheme for different social media types in their Business Horizons article, based on which there are six different types of social media: Collaborative projects, blogs and micro blogs, content communities, social networking sites, virtual game worlds, and virtual communities. The technical skills needed to use social media are rather low.

The use of social media with web services and e-Learning in CoPs improves the ability of members to socially interact with the technology used (communication with technology) and learning with it. Social media tools like internet forums, weblogs, social blogs, micro blogging, wikis, podcasts, photographs or pictures, video, rating and social bookmarking are easy to use and can help to create a more dynamic community and provide an on-going conversation benefiting the members.

Examples

The above ideas were applied within the activities of some projects like the EU project SIMPEL, then strategies were developed to enable SMEs to take full advantage of the e-Learning in their training (Beer, Busse, Hamburg and Oehler, 2008).

SMEs and e-Learning experts were involved in a European Community of Practice CoP to share learning and knowledge and to develop together learning resources. An “innovative and optimal vocational training model” for SMEs based on e-Learning 2.0 was developed. Best practice models for capturing and sharing of knowledge as well as using e-Learning have been collected and guidelines for using them in the CoPs.

Within this CoP on-line forums and cooperative, interactive e-Learning based training sequences and virtual sessions on the Moodle platform, support the CoP activities (Dougiamas, 2004). Members of the CoP who did not know Moodle have been trained for using it.

Wikis have been deployed on different required subjects and have been used for work at common resources like the guidelines, to share ideas and improve the communication skills of the members collectively. So using Wikis in this way the opportunity was provided for community members to reflect and comment on either their work or others.

This CoP attracted sectors engaged in support, training and design/development/use of e-Learning, in consulting

and policy formulation concerning e-Learning in SMEs in the European Union. However, the participation of SME was less. The CoP activities and products were evaluated internally and externally and it was established that many SMEs did not possess adequate ICT skills to participate in the CoP virtual activities and that the advantages of CoPs and e-Learning 2.0 based training are not well understood by managers. In order to train SMEs to make more use of the Web 2.0 for sharing and acquiring knowledge as well improving interactions with their customers, the activities of this CoP have been increased with attractive e-Learning based tutorials including web usability guidelines for SMEs.

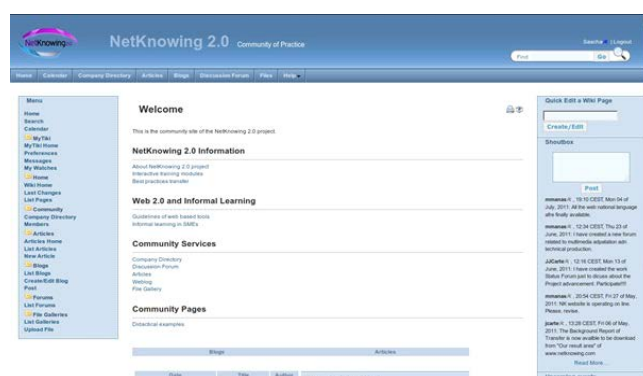


FIGURE 1 COP OF THE PROJECT NET KNOWING 2.0.
(SOURCE: IAT: [HTTP://COP.NETKNOWING.EU](http://cop.netknowing.eu))

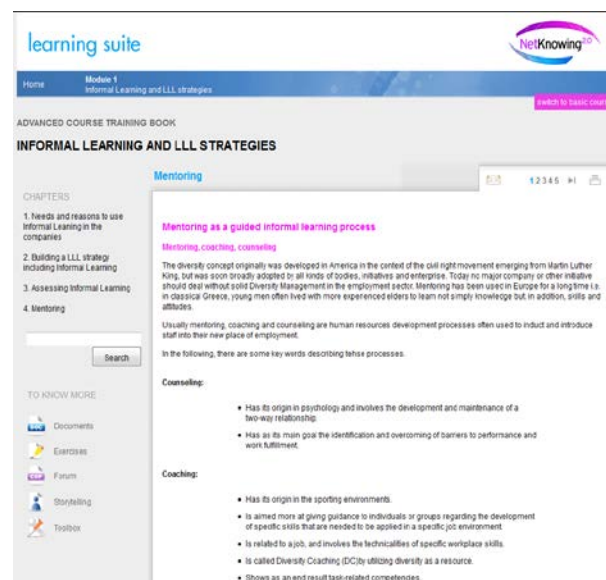


FIG. 2 SCREENSHOT OF THE NET KNOWING 2.0 ADVANCED
COURSE LEARNING SUITE
(SOURCE: [HTTP://COP.NETKNOWING.EU](http://cop.netknowing.eu))

Another project aimed at using informal learning, Web 2.0 and networking in SMEs is Net Knowing 2.0 (www.netknowing.eu). The ICT platform supported community was developed by using the tool TikiWiki (<http://cop.netknowing.eu>). TikiWiki CMS Groupware (Wikipedia) is a free and open source wiki-based

content management system. The decision to use TikiWiki was taken after an analysis of some open source tools. The users of the platform can get information about the project and Web 2.0 as well as informal learning. If they register on the CoP, they can use community services like discussion forum about a problem to be solved, file gallery and particularly the community directory with addresses, competences and interests of social network (community) members.

Two main products of Net Knowing 2.0 are a self-learning basic course focused on benefits of informal learning for SMEs and how to learn using Web 2.0, social networks and net collaborating practices and an e-Learning advanced course focused on the implementation of Web 2.0 based informal learning, networking strategies and mentoring in SMEs and other organizations.

Figure 3 presents a screenshot from the advanced course of the learning suite within Net Knowing 2.0 (Hamburg and Marian, 2012c).

An on-going European project coordinated by one of the authors is DIMENSAAI: Diversity and Mentoring Approaches to Support Active Ageing and Integration (www.dimensaai.eu).

By transferring a mentoring model from former European projects like IBB to Germany and other partners, the consortium intends to improve participation in education and employment particularly for disadvantaged groups by the use of a social innovative diversity and mentoring training model with the focus on social networking and the working places in the health and care sector. Focus Group Discussions with education, social actors and representatives of target groups have been organized. A social network supported by an ICT platform for innovative online training, forums for information exchange and solving problems, collaboration is developed within the project (Fig 3).



FIG. 3: SCREENSHOT OF THE DIMENSAAI PLATFORM
(SOURCE: WWW.PLATFORM.DIMENSAAI.EU)

Conclusions

The use of e-Learning and Communities is advocated to improve knowledge in SMEs. Social networks are useful to improve the training and knowledge management strategies, to cooperate, for keeping experts and clients in touch and informal learning, but additionally work and business oriented content and suitable learning platforms are needed. It is important to help SME staff to have an open and adaptable attitude to such new approaches that can be exploited in the learning process.

ACKNOWLEDGEMENT

This paper described work within the SIMPEL project which was supported by the EU within the e-Learning initiative and the innovation transfer projects ReadisME, NetKnowing 2.0 and DIMENSAAI, sponsored by the LLL Leonardo da Vinci sub-programme.

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